

**AGENCY INTEREST NO. 2416
PSD-LA-594 (M-1)**

**AUTHORIZATION TO CONSTRUCT AND OPERATE A MODIFIED MAJOR SOURCE
PURSUANT TO THE PREVENTION OF SIGNIFICANT DETERIORATION
REGULATIONS IN LOUISIANA ENVIRONMENTAL REGULATORY CODE,
LAC 33:III.509**

In accordance with the provisions of the Louisiana Environmental Regulatory Code, LAC 33:III.509,

CF Industries Inc
PO Box 468
Donaldsonville, LA 70346-0468

is authorized to operate the No. 4 Urea Plant, No. 3 Nitric Acid Plant, and No. 2 Ammonium Nitrate Plant at the CF Industries Inc - Donaldsonville Nitrogen Complex near

39018 Hwy 3089
(3 Mi from Sunshine Bridge)
Donaldsonville, LA 70346

subject to the emissions limitations, monitoring requirements, and other conditions set forth hereinafter.

This permit and authorization to construct was originally to expire at midnight on October 27, 1997, unless physical on site construction had begun by such date, or binding agreements or contractual obligations to undertake a program of construction of the source were entered into by such date. The facilities were built and operated prior to that date. No additional physical construction is associated with the modifications to this permit.

Signed this _____ day of _____, 2007.

Chuck Carr Brown, Ph.D.
Assistant Secretary
Office of Environmental Services
Louisiana Department of Environmental Quality

BRIEFING SHEET

CF Industries Inc - Donaldsonville Nitrogen Complex
Agency Interest No.: 2416
CF Industries Inc
Donaldsonville, Ascension Parish, Louisiana
PSD-LA-594 (M-1)

PURPOSE

CF Industries originally proposed to construct No. 4 Urea Plant, No. 3 Nitric Acid Plant, and No. 2 Urea Ammonium Nitrate plant.

Part of the original design and construction included two cooling towers, one for the No.3 Nitric Acid Plant and the second for the No. 4 Urea Plant. The changes required that BACT controls be reviewed for particulate emissions from these two sources, but that review was not previously performed. This modification incorporates the analysis and results of that review.

RECOMMENDATION

Approval of and issuance of a permit.

REVIEWING AGENCY

Louisiana Department of Environmental Quality, Office of Environmental Services, Air Permits Division

PROJECT DESCRIPTION

The complex previously consisted of four ammonia plants, three urea plants, two nitric acid plants, and one urea ammonium nitrate (UAN) plant. CF Industries added a No. 4 Urea Plant, a No. 3 Nitric Acid Plant, and a No. 2 UAN Plant. The proposed production rates were:

No. 4 Urea Plant: 894,250 tons per year;
 No. 3 Nitric Acid Plant: 383,250 tons per year;
 No. 2 UAN Plant: 1,095,000 tons per year.

Estimated emissions, in tons per year, were as follows:

Pollutant	Project Emissions	Contemporaneous Change	Net Change	PSD de Minimis
PM ₁₀	137.86	NA	+137.86	+15
SO ₂	0.83	NA	+0.83	+40
NO _x	431.74	-619.6	-187.9	+40
CO	55.26	NA	+55.26	+100
VOC	1.92	NA	+1.92	+40
NH ₃	553.22	NA	+553.22	-

The project was significant for increases in PM₁₀ and required Prevention of Significant Deterioration (PSD) review. Emissions of a pollutant regulated under PSD shall be controlled by implementing Best Available Control Technology.

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Total revised emissions from the project in tons per year were estimated to be as follows (includes the emissions from the cooling towers):

Pollutant	Project Emissions	Contemporaneous Change	Net Change	PSD de Minimis
PM ₁₀	164.99	NA	+164.99	+15
CO	80.0	NA	+80.0	+100

The original permit application used the then current (1993) AP-42 Section 1.4 emission factor for carbon monoxide emission rates. AP-42 Section 1.4 was revised in 1998, which increased the carbon monoxide emission rate but not above the significance level.

The project PM₁₀ emission rates have incorporated the most current values from the current application, which may include the incorporation of stack test data not available at the time of the original PSD issuance.

TYPE OF REVIEW

Particulate matter (PM/PM₁₀), emissions from the proposed major modification were above PSD significance levels. Therefore, the requested permit was reviewed in accordance with PSD regulations for PM/PM₁₀ emissions. Emissions of LAC 33:III.Chapter 51-regulated toxic air pollutants (TAP) have been reviewed pursuant to the requirements of the Louisiana Air Quality Regulations.

BEST AVAILABLE CONTROL TECHNOLOGY

PM/PM₁₀ emissions are above PSD significance levels and must undergo PSD analysis. The selection of control technology was based on the BACT analysis using a "top down" approach and included consideration of control of toxic materials.

The significant increase of PM₁₀ associated with the proposed new plants is from the granulator for the No. 4 Urea Plant (Emission Point 2-95). Based on the technical and environmental considerations, the Best Available Control Technology for the urea granulator is an impingement wet scrubber.

For the No. 4 Urea Boiler (Emission Point 10-95), optimum combustion control and the use of clean burning fuels minimize particulate emissions that occur as a result of incomplete combustion. BACT for PM₁₀ is the use of clean burning fuels (i.e., natural gas) to limit particulate emissions.

Based on the technical and environmental considerations, the Best Available Control Technology for the increases of PM₁₀ associated with the two cooling towers (Emission Points 20-95 and 21-95) is the use of drift eliminators and proper operation of the sources. Although not considered at the time of construction to be particulate matter emitters, the cooling towers have been equipped with drift eliminators since the first day of operation.

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AIR QUALITY IMPACT ANALYSIS

Prevention of Significant Deterioration regulations require an analysis of existing air quality for those pollutants emitted in significant amounts from a proposed major modification.

Industrial Source Complex, Short-Term, Version 3 (ISCST3) modeling indicates maximum ground level concentrations of PM₁₀ are below the ambient significance levels and preconstruction monitoring exemption levels. Therefore, no preconstruction monitoring, increment analysis, or refined modeling is required for these pollutants.

Dispersion modeling indicates the impact of PM₁₀ from the cooling towers is below the National Ambient Air Quality Standards (NAAQS) and within the allowable increment consumption limits of this pollutant.

ADDITIONAL IMPACTS

Soils, vegetation, and visibility will not be adversely impacted by the proposed facility, nor will any Class I area be affected. The project will not result in any significant secondary growth effects.

PROCESSING TIME

Application Dated:	September 28, 1995
Application Received:	October 3, 1995
Effective Completeness Date:	December 15, 1995
Retroactive Application Received:	March 31, 2006
Effective Completeness:	September 28, 2006

PUBLIC NOTICE

A notice requesting public comment on the proposed project was published in *The Advocate*, Baton Rouge, Louisiana on January 6, 1996, in *The Chief*, Donaldsonville, Louisiana on January 11, 1996. All comments were considered prior to the final permit decision.

A notice requesting public comment on the modified permit to incorporate the retroactive analysis of the cooling towers was published in *The Advocate*, Baton Rouge, Louisiana, on Month XX, 2006; and in the *The Chief*, Donaldsonville, Louisiana, on Month XX, 2006. Copies of the public notice were also mailed to individuals who have requested to be placed on the mailing list maintained by the Office of Environmental Services on <<Date>>, 200x. A proposed permit was also submitted to U.S. EPA Region VI on <<Date>>, 200x. All comments will be considered prior to a final permit decision.

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CF Industries Inc - Donaldsonville Nitrogen Complex

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Donaldsonville, Ascension Parish, Louisiana

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Effective Completeness Date September 28, 2006

I. APPLICANT

CF Industries Inc.
Donaldsonville Nitrogen Complex
PO Box 468
Donaldsonville, LA 703460468

II. LOCATION

CF Industries Inc - Donaldsonville Nitrogen Complex is located at 39018 Hwy 3089 (3 Mi from Sunshine Bridge), Donaldsonville, Louisiana. The approximate UTM coordinates are 696.9 kilometers East, 3331.3 kilometers North, Zone 15.

III. PROJECT DESCRIPTION

The CF complex originally consisted of four ammonia plants, three urea plants, two nitric acid plants, and one urea ammonium nitrate (UAN) plant. CF added a No. 4 Urea Plant, a No. 3 Nitric Acid Plant, and a No. 2 UAN Plant. The proposed production rates were:

No. 4 Urea Plant: 894,250 tons per year;
No. 3 Nitric Acid Plant: 383,250 tons per year;
No. 2 UAN Plant: 1,095,000 tons per year.

Part of the original design and construction included two cooling towers, one for the No.3 Nitric Acid Plant and the second for the No. 4 Urea Plant. The changes required that BACT controls be reviewed for particulate emissions from these sources, but that review was not previously performed. This modification incorporates the analysis and results of that review.

Each of the production processes is described below and a discussion of the emission points I included.

Granular Urea Production

Granular urea is a solid fertilizer manufactured from ammonia and by-product carbon dioxide produced in the ammonia plants at the Donaldsonville Complex. Liquid ammonia and gaseous carbon dioxide are mixed at 2,200 psig in a condenser to form ammonium carbamate. Carbamate flows into the urea reactor where it is converted to urea and water.

The urea solution flows to the rectifying column where ammonia, carbon dioxide, and water are

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removed. The purified solution moves through a flash tank, pre-evaporator, and surge tank to an evaporator where water is removed under vacuum to produce concentrated urea melt.

Urea melt is sprayed onto a moving bed of urea granules inside a fluidized bed granulator. The granules are removed and screened to the desired size. Fluidization air from the granulator is passed through scrubbers before being vented to the atmosphere.

Emissions associated with the proposed granular urea production include:

- Typical natural gas combustion emissions from the plant boiler (Emission Point 10-95);
- Ammonia emissions from the low pressure absorber (Emission Point 1-95);
- Ammonia emissions from the process discharge to the urea vent stack (Emission Point 3-95);
- Ammonia and particulate emissions from the granulator scrubber (Emission Point 2-95); and
- Particulate emissions from the cooling tower (Emission Point 21-95).

Nitric Acid, Ammonium Nitrate, and Urea Ammonium Nitrate Production (UAN).

Nitric Acid No. 3 is a dual pressure process. Production is initiated by converting anhydrous ammonia to a vapor at 150°F. Compressed air and gaseous ammonia are mixed and then reacted over a platinum-rhodium gauze at 1,625°F and 60 psig to produce nitrogen oxides. The nitrogen oxide gases are cooled in the waste heat boiler to conserve energy and further cooled to 120°F before entering the absorption tower which operates at 160 psig. Nitrogen oxides are absorbed in water to produce nitric acid. Absorber emissions (Emission Point 4-95) are vented with a catalytic abatement system. The principal emissions are nitrogen oxides except for particulate emissions from the cooling tower (Emission Point 20-95).

Ammonium nitrate is formed by reacting aqueous nitric acid and gaseous ammonia in a neutralizer tank. The ammonium nitrate solution flows into a UAN mixing tank where it is combined with a urea solution. The product UAN solution is pumped to storage. There are relatively minor emissions associated with the proposed ammonium nitrate and UAN processes. Fugitive ammonia emissions are the most significant emissions from these processes.

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Estimated emissions, in tons per year, are as follows:

Pollutant	Project Emissions	Contemporaneous Change	Net Change	PSD de Minimis
PM ₁₀	166.99	NA	+166.99	+15
SO ₂	0.83	NA	+0.83	+40
NO _x	431.74	-619.6	-187.9	+40
CO	80.0	NA	+80.0	+100
VOC	1.92	NA	+1.92	+40
NH ₃	553.22	NA	+553.22	-

The project is significant for increases in PM₁₀ and requires Prevention of Significant Deterioration (PSD) review. Emissions of a pollutant regulated under PSD shall be controlled by implementing Best Available Control Technology.

IV. SOURCE IMPACT ANALYSIS

A proposed net increase in the emission rate of a regulated pollutant above de minimis levels for new major or modified major stationary sources requires review under Prevention of Significant Deterioration regulations, 40 CFR 52.21. PSD review entails the following analyses:

- A. A determination of the Best Available Control Technology (BACT);
- B. An analysis of the existing air quality and a determination of whether or not preconstruction or postconstruction monitoring will be required;
- C. An analysis of the source's impact on total air quality to ensure compliance with the National Ambient Air Quality Standards (NAAQS);
- D. An analysis of the PSD increment consumption;
- E. An analysis of the source related growth impacts;
- F. An analysis of source related growth impacts on soils, vegetation, and visibility;
- G. A Class I Area impact analysis; and
- H. An analysis of the impact of toxic compound emissions.

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A. **BEST AVAILABLE CONTROL TECHNOLOGY**

Under current PSD regulations, an analysis of "top down" BACT is required for the control of each regulated pollutant emitted from a modified major stationary in excess of the specified significant emission rates. The top down approach to the BACT process involves determining the most stringent control technique available for a similar or identical source. If it can be shown that this level of control is infeasible based on technical, environmental, energy, and/or cost considerations, then it is rejected and the next most stringent level of control is determined and similarly evaluated. This process continues until a control level is arrived at which cannot be eliminated for any technical, environmental, or economic reason. A technically feasible control strategy is one that has been demonstrated to function efficiently on identical or similar processes. Additionally, BACT shall not result in emissions of any pollutant which would exceed any applicable standard under 40 CFR Parts 60 and 61.

One appreciable source of PM₁₀ associated with the proposed new plants is the granulator for No. 4 Urea Plant (Emission Point 2-95). The granulator solidifies a urea solution of approximately 96% by weight, forming a hard, solid pellet which is then ready for storage or loading shipment.

A review of stack gas treatment used by urea manufacturers and recommended by suppliers of urea process technologies has been conducted. The results of this review, as well as other technologies available for particulate control, are presented below.

Where PM₁₀ is addressed in the BACT analysis, it is assumed that particulate matter (PM) is also being considered.

BACT analyses for PM/PM10

2-95 - No. 4 Urea Granulator (EQT # 46)

Baghouse

Baghouses remove dusts from a gas stream by passing the stream through a porous fabric. The particles form a porous cake on the surface of the fabric, and the cake typically performs the filtration. For CF's application, a baghouse would not be appropriate for the granulation process, since the high volume of material would cause the baghouse to cake up too frequently for successful operation. Downstream of the granulation process wet scrubber, the PM₁₀ is a mist rather than a dust particle. Baghouse control equipment is not suitable for this situation.

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Electrostatic Precipitator

Electrostatic Precipitators (ESPs) use electrical forces to move the particles out a flowing gas stream and onto collector plates. Once the particles are collected on the plates, they are either knocked loose from the plates and collected onto a hopper, or washed with water. Like baghouses, ESPs are inappropriate for use in controlling urea granulation emissions since (1) an ESP for the granulation process would not be able to accept the high volume of material, and (2) the mist downstream of the wet scrubber would not respond correctly to the ESP process.

Wet Scrubber

Wet Scrubbers remove particles from gas stream by capturing the particles in water droplets and separating the droplets from the gas stream. Wet scrubbers are the most reliable of the methods listed, and are applicable for controlling emissions from the granulation process. Technology and environmental considerations both point to an impingement-type wet scrubber as BACT for the urea granulator. The points to consider are:

- a. The wet scrubber is the only technology appropriate for urea dust control.
- b. The impingement-type wet scrubber maintains a 45% urea solution which is recycled back to the process. Although, in concept, wet scrubbers with greater water rates could further reduce emissions, they would create the undesirable environmental impact associated with wastewater treatment. This is due to the fact that these scrubbers produce a dilute urea solution which could not be recycled to the urea process.

CF Industries plans to use impingement-type wet scrubbers in its No. 4 urea granulation plant as BACT.

The Wet Scrubbers for the No. 4 Urea Granulator, Emission Point 2-95, shall operate as indicated below:

<u>Description</u>	<u>Scrubbing Agent</u>	<u>Efficiency</u>	<u>Minimum Flow</u>
Granulator Scrubber	dilute urea solution	95%	7 gpm
Cooler Scrubber	purified process condensate	95%	23 gpm

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20-95 - No. 3 Nitric Acid Cooling Tower (CT-301) (EQT # 48) and 21-95 - No. 4 Urea Cooling Tower (CT-301) (EQT # 49)

The cooling towers are also a contributor to PM₁₀ emissions. Wet cooling towers function as heat exchangers that dispel unneeded process heat to the atmosphere. Cooling towers promote evaporation. Direct contact between the process water and the passing air through the tower causes some of the liquid water to be entrained in the air stream and carried out of the tower as "drift" droplets. The water circulating in the tower contains small amounts of dissolved solids (e.g., calcium, magnesium, etc.) that are assumed to crystallize and form airborne particles that leave the cooling tower along with the drift droplets.

A review of cooling tower particulate control techniques has been conducted. The results of this review, as well as other technologies available for particulate control, are presented below.

Design Considerations

Currently new designs of cooling towers reduce the amount of drift droplets. Because the cooling towers already exist and are in operation, a redesign is no longer viable.

Limiting Total Dissolved Solids

The facility could impose a limit of the amount of total dissolved solids (TDS) in the cooling tower water which would reduce the amount of particulate that could be potentially entrained. The water sent to the cooling towers is process water and limiting the TDS is not technically feasible within the associated process limit variations.

Add-on Devices

Add-on air pollution devices are infeasible due to the large surface area and the high air flowrate requirements.

Capture System

No capture system can be attached to the air outlet because it would impair pressure balance and heat transfer from the system.

Drift Eliminators

Drift eliminators function on the principle of inertial separation caused by directional changes while passing through the eliminators.

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CF Industries plans to use mist eliminators for the cooling towers in its No. 4 urea granulation plant and No. 3 Nitric Acid Plant as BACT.

A summary of BACT costs for technologies eliminated for economic reasons is presented in Table I.

B. ANALYSIS OF EXISTING AIR QUALITY

Prevention of Significant Deterioration regulations require an analysis of existing air quality for those pollutants to be emitted in significant amounts from a proposed major modification. PM₁₀ is the pollutant of concern in this case.

ISCST3 modeling of PM₁₀ emissions from the proposed project indicates that the maximum offsite ground level concentrations for each averaging period will be below their respective PSD significance levels and preconstruction monitoring levels. Therefore, pre-construction monitoring, refined NAAQS modeling, and increment consumption analyses were not required.

Dispersion modeling indicates the impact of PM₁₀ from the cooling towers is below the National Ambient Air Quality Standards (NAAQS) and within the allowable increment consumption limits of this pollutant.

The summary is shown in Table II.

C. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) ANALYSIS

Because ISCST3 modeling analyses indicated concentrations of PM₁₀ would be below its PSD ambient significance level, refined NAAQS modeling was not required.

D. PSD INCREMENT ANALYSIS

Because ISCST3 modeling analyses indicated concentrations of PM₁₀ would be below its PSD ambient significance level, PSD increment modeling was not required.

E. SOURCE RELATED GROWTH IMPACTS

Operation of this facility is not expected to have any significant effect on residential growth or industrial/commercial development in the area of the facility. No significant net change in employment, population, or housing will be associated with the project. As a result, there will not be any significant increases in pollutant emissions indirectly associated with CF Industries Inc.'s proposal.

PRELIMINARY DETERMINATION SUMMARY

CF Industries Inc - Donaldsonville Nitrogen Complex

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CF Industries Inc - Accounts Payable

Donaldsonville, Ascension Parish, Louisiana

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F. SOILS, VEGETATION, AND VISIBILITY IMPACTS

There will be no significant impact on area soils, vegetation, or visibility.

G. CLASS I AREA IMPACTS

Louisiana's Breton Wildlife Refuge, the nearest Class I area, is over 100 kilometers from the site, precluding any significant impact.

H. TOXIC EMISSIONS IMPACT

The proposed new plants will produce NH₃ emissions. The increase in ammonia emissions (a Class III Louisiana Toxic Air Pollutant) associated with this application has been modeled and will not cause an exceedance of the ambient air standard. On a federal level, ammonia is not considered a hazardous air pollutant and is not subject to regulation. Emission increases of other toxic air pollutants are less than the Minimum Emission Rates (MER).

V. CONCLUSION

The Air Permits Division made a determination to approve the construction of the CF Industries' No. 4 Urea Plant, No. 3 Nitric Plant, and No. 2 UAN Plant at the CF Industries Inc - Donaldsonville Nitrogen Complex near Donaldsonville, in Ascension Parish, Louisiana, subject to the attached specific and general conditions. PSD Permit PSD-LA-594 was issued on April 29, 1996. The Air Permits Division has made a preliminary determination to approve the continued operation of the two cooling towers not previously considered in the original PSD permit. In the event of a discrepancy in the provisions found in the application and those in this Preliminary Determination Summary, the Preliminary Determination Summary shall prevail.

SPECIFIC CONDITIONS

CF Industries Inc - Donaldsonville Nitrogen Complex

Agency Interest No.: 2416

CF Industries Inc - Accounts Payable

Donaldsonville, Ascension Parish, Louisiana

PSD-LA-594 (M-1)

1. The permittee is authorized to operate in conformity with the specifications submitted to the Louisiana Department of Environmental Quality (LDEQ) as analyzed in LDEQ's document entitled "Preliminary Determination Summary" dated September 28, 2006, and subject to the following emissions limitations and other specified conditions. Specifications submitted are contained in the application and Emission Inventory Questionnaire dated March 31, 2006.

MAXIMUM ALLOWABLE EMISSIONS RATES

ID No.	Description		PM ₁₀	SO ₂	NO _x	CO	VOC
2-95	No. 4 Urea Granulator	lb/hr TPY	46.4 135.3				
20-95	No. 3 Nitric Acid Cooling Tower (CT-301)	lb/hr TPY	0.44 1.62				
21-95	No. 4 Urea Cooling Tower (CT-301)	lb/hr TPY	0.92 2.98				

2. Specific Condition No. 2: Granulator scrubber flow rate \geq 7.00 gallons/min of dilute urea solution.
3. Specific Condition No. 3: Granulator scrubber flow rate monitored by flow rate monitoring device once every four hours
4. Specific Condition No. 4: Granulator scrubber flow rate recordkeeping by electronic or hard copy once every four hours.
5. Specific Condition No. 5: Cooler scrubber flow rate \geq 23.0 gallons/min of purified process condensate.
6. Specific Condition No. 6: Cooler scrubber flow rate monitored by flow rate monitoring device once every four hours
7. Specific Condition No. 7: Cooler scrubber flow rate recordkeeping by electronic or hard copy once every four hours.
8. Specific Condition No. 8: Drift Eliminators shall be operated in accordance with the manufacturer instructions to control particulate emissions as established as BACT.

LOUISIANA AIR EMISSION PERMIT GENERAL CONDITIONS

- I. This permit is issued on the basis of the emissions reported in the application for approval of emissions and in no way guarantees that the design scheme presented will be capable of controlling the emissions to the type and quantities stated. Failure to install, properly operate and/or maintain all proposed control measures and/or equipment as specified in the application and supplemental information shall be considered a violation of the permit and LAC 33:III.501. If the emissions are determined to be greater than those allowed by the permit (e.g. during the shakedown period for new or modified equipment) or if proposed control measures and/or equipment are not installed or do not perform according to design efficiency, an application to modify the permit must be submitted. All terms and conditions of this permit shall remain in effect unless and until revised by the permitting authority.
- II. The permittee is subject to all applicable provisions of the Louisiana Air Quality Regulations. Violation of the terms and conditions of the permit constitutes a violation of these regulations.
- III. The Emission Rates for Criteria Pollutants, Emission Rates for TAP/HAP & Other Pollutants, and Specific Requirements sections or, where included, Emission Inventory Questionnaire sheets establish the emission limitations and are a part of the permit. Any operating limitations are noted in the Specific Requirements or, where included, Tables 2 and 3 of the permit. The synopsis is based on the application and Emission Inventory Questionnaire dated September 28, 1995, along with supplemental information for the cooling towers dated March 31, 2006.
- IV. This permit shall become invalid, for the sources not constructed, if:
 - A. Construction is not commenced, or binding agreements or contractual obligations to undertake a program of construction of the project are not entered into, within two (2) years (18 months for PSD permits) after issuance of this permit, or;
 - B. If construction is discontinued for a period of two (2) years (18 months for PSD permits) or more.

The administrative authority may extend this time period upon a satisfactory showing that an extension is justified.

This provision does not apply to the time period between construction of the approved phases of a phased construction project. However, each phase must commence construction within two (2) years (18 months for PSD permits) of its projected and approved commencement date.
- V. The permittee shall submit semiannual reports of progress outlining the status of construction, noting any design changes, modifications or alterations in the construction schedule which have or may have an effect on the emission rates or ambient air quality levels. These reports shall continue to be submitted until such time as construction is certified as being complete. Furthermore, for any significant change in the design, prior approval shall be obtained from the Office of Environmental Services, Air Permits Division.
- VI. The permittee shall notify the Department of Environmental Quality, Office of Environmental Services, Air Permits Division within ten (10) calendar days from the date that construction is certified as complete and the estimated date of start-up of operation. The appropriate Regional Office shall also be so notified within the same time frame.
- VII. Any emissions testing performed for purposes of demonstrating compliance with the limitations set forth in paragraph III shall be conducted in accordance with the methods described in the Specific Conditions and, where included, Tables 1, 2, 3, 4, and 5 of this permit. Any deviation from or modification of the methods used for testing shall have prior approval from the Office of Environmental Assessment, Air Quality Assessment Division.

LOUISIANA AIR EMISSION PERMIT GENERAL CONDITIONS

- VIII. The emission testing described in paragraph VII above, or established in the specific conditions of this permit, shall be conducted within sixty (60) days after achieving normal production rate or after the end of the shakedown period, but in no event later than 180 days after initial start-up (or restart-up after modification). The Office of Environmental Assessment, Air Quality Assessment Division shall be notified at least (30) days prior to testing and shall be given the opportunity to conduct a pretest meeting and observe the emission testing. The test results shall be submitted to the Air Quality Assessment Division within sixty (60) days after the complete testing. As required by LAC 33:III.913, the permittee shall provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits.
- IX. The permittee shall, within 180 days after start-up and shakedown of each project or unit, report to the Office of Environmental Compliance, Enforcement Division any significant difference in operating emission rates as compared to those limitations specified in paragraph III. This report shall also include, but not be limited to, malfunctions and upsets. A permit modification shall be submitted, if necessary, as required in Condition I.
- X. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of at least five (5) years.
- XI. If for any reason the permittee does not comply with, or will not be able to comply with, the emission limitations specified in this permit, the permittee shall provide the Office of Environmental Compliance, Enforcement Division with a written report as specified below.
- A. A written report shall be submitted within 7 days of any emission in excess of permit requirements by an amount greater than the Reportable Quantity established for that pollutant in LAC 33.I.Chapter 39.
 - B. A written report shall be submitted within 7 days of the initial occurrence of any emission in excess of permit requirements, regardless of the amount, where such emission occurs over a period of seven days or longer.
 - C. A written report shall be submitted quarterly to address all emission limitation exceedances not included in paragraphs A or B above. The schedule for submittal of quarterly reports shall be no later than the dates specified below for any emission limitation exceedances occurring during the corresponding specified calendar quarter:
 - 1. Report by June 30 to cover January through March
 - 2. Report by September 30 to cover April through June
 - 3. Report by December 31 to cover July through September
 - 4. Report by March 31 to cover October through December
 - D. Each report submitted in accordance with this condition shall contain the following information:
 - 1. Description of noncomplying emission(s);
 - 2. Cause of noncompliance;
 - 3. Anticipated time the noncompliance is expected to continue, or if corrected, the duration of the period of noncompliance;
 - 4. Steps taken by the permittee to reduce and eliminate the noncomplying emissions; and
 - 5. Steps taken by the permittee to prevent recurrences of the noncomplying emissions.

LOUISIANA AIR EMISSION PERMIT GENERAL CONDITIONS

- E. Any written report submitted in advance of the timeframes specified above, in accordance with an applicable regulation, may serve to meet the reporting requirements of this condition provided all information specified above is included. For Part 70 sources, reports submitted in accordance with Part 70 General Condition R shall serve to meet the requirements of this condition provided all specified information is included. Reporting under this condition does not relieve the permittee from the reporting requirements of any applicable regulation, including LAC 33.I.Chapter 39, LAC 33.III.Chapter 9, and LAC 33.III.5107.
- XII. Permittee shall allow the authorized officers and employees of the Department of Environmental Quality, at all reasonable times and upon presentation of identification, to:
- A. Enter upon the permittee's premises where regulated facilities are located, regulated activities are conducted or where records required under this permit are kept;
 - B. Have access to and copy any records that are required to be kept under the terms and conditions of this permit, the Louisiana Air Quality Regulations, or the Act;
 - C. Inspect any facilities, equipment (including monitoring methods and an operation and maintenance inspection), or operations regulated under this permit; and
 - D. Sample or monitor, for the purpose of assuring compliance with this permit or as otherwise authorized by the Act or regulations adopted thereunder, any substances or parameters at any location.
- XIII. If samples are taken under Section XII.D. above, the officer or employee obtaining such samples shall give the owner, operator or agent in charge a receipt describing the sample obtained. If requested prior to leaving the premises, a portion of each sample equal in volume or weight to the portion retained shall be given to the owner, operator or agent in charge. If an analysis is made of such samples, a copy of the analysis shall be furnished promptly to the owner, operator or agency in charge.
- XIV. The permittee shall allow authorized officers and employees of the Department of Environmental Quality, upon presentation of identification, to enter upon the permittee's premises to investigate potential or alleged violations of the Act or the rules and regulations adopted thereunder. In such investigations, the permittee shall be notified at the time entrance is requested of the nature of the suspected violation. Inspections under this subsection shall be limited to the aspects of alleged violations. However, this shall not in any way preclude prosecution of all violations found.
- XV. The permittee shall comply with the reporting requirements specified under LAC 33:III.919 as well as notification requirements specified under LAC 33:III.927.
- XVI. In the event of any change in ownership of the source described in this permit, the permittee and the succeeding owner shall notify the Office of Environmental Services, Air Permits Division, within ninety (90) days after the event, to amend this permit.
- XVII. Very small emissions to the air resulting from routine operations, that are predictable, expected, periodic, and quantifiable and that are submitted by the permitted facility and approved by the Air Permits Division are considered authorized discharges. Approved activities are noted in the General Condition XVII Activities List of this permit. To be approved as an authorized discharge, these very small releases must:
- 1. Generally be less than 5 TPY
 - 2. Be less than the minimum emission rate (MER)

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3. Be scheduled daily, weekly, monthly, etc., or
4. Be necessary prior to plant startup or after shutdown [line or compressor pressuring/depressuring for example]

These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. This general condition does not authorize the maintenance of a nuisance, or a danger to public health and safety. The permitted facility must comply with all applicable requirements, including release reporting under LAC 33:I.3901.

- XVIII. Provisions of this permit may be appealed in writing pursuant to La. R.S. 30:2024(A) within 30 days from receipt of the permit. Only those provisions specifically appealed will be suspended by a request for hearing, unless the secretary or the assistant secretary elects to suspend other provisions as well. Construction cannot proceed except as specifically approved by the secretary or assistant secretary. A request for hearing must be sent to the following:

Attention: Office of the Secretary, Legal Services Division
La. Dept. of Environmental Quality
Post Office Box 4302
Baton Rouge, Louisiana 70821-4302

- XIX. Certain Part 70 general conditions may duplicate or conflict with state general conditions. To the extent that any Part 70 conditions conflict with state general conditions, then the Part 70 general conditions control. To the extent that any Part 70 general conditions duplicate any state general conditions, then such state and Part 70 provisions will be enforced as if there is only one condition rather than two conditions.

TABLE I: BACT COST SUMMARY

CF Industries Inc - Donaldsonville Nitrogen Complex
Agency Interest No.: 2416
CF Industries Inc
Donaldsonville, Ascension Parish, Louisiana
PSD-LA-594 (M-1)

Control Alternatives	Availability/ Feasibility	Negative Impacts (a)	Control Efficiency	Emissions Reduction (TPY)	Capital Cost (\$)	Annualized Cost (\$)	Cost Effectiveness (\$/ton)	Notes
2-95 - No. 4 Urea Granulator (EQT # 46)								
PM ₁₀	Baghouse	Note b						
	Electrostatic Precipitators	Note b						
	Wet Scrubber							Chosen
20-95 - No. 3 Nitric Acid Cooling Tower (CT-301) (EQT # 48) and 21-95 - No. 4 Urea Cooling Tower (CT-301) (EQT # 49)								
PM ₁₀	Cooling tower Design	N/A - already built						
	limit total dissolved solids (TDS)	Note b						
	Add-on air pollution devices	Note b						
	Capture Devices	Note b						
	Drift eliminators	Already installed						Chosen
Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety b) Technically infeasible, economic analysis was not performed								

TABLE II: AIR QUALITY ANALYSIS SUMMARY
CF Industries Inc - Donaldsonville Nitrogen Complex
Agency Interest No.: 2416
CF Industries Inc
Donaldsonville, Ascension Parish, Louisiana
PSD-LA-594 (M-1)

Pollutant	Averaging Period	Preliminary Screening Concentration ($\mu\text{g}/\text{m}^3$)	Level of Significant Impact ($\mu\text{g}/\text{m}^3$)	Significant Monitoring Concentration ($\mu\text{g}/\text{m}^3$)	At the Monitoring Station		Background ($\mu\text{g}/\text{m}^3$)	Maximum Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Modeled + Background Concentration ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	Modeled PSD Increment Consumption ($\mu\text{g}/\text{m}^3$)	Allowable Class II PSD Increment ($\mu\text{g}/\text{m}^3$)
					Monitored Values ($\mu\text{g}/\text{m}^3$)	Modeling results ($\mu\text{g}/\text{m}^3$)						
PM ₁₀	24-hour	NR	5	10	NR	NR	NR	4.87	N/A	150	30	30
	Annual	NR	1	-	NR	NR	NR	0.36	N/A	50	17	17
NR = Not required.												